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**Course/Block:** BSIT 4-D

**Activity 1:** What topic did you learn in System Integration and Architecture 1?

The topics that I have learned in System Integration and Architecture 1 is about Data and Information, how they are different with each other and how to distinguish information from data, classifications and characteristics of information and etc. Choosing of colors, fonts and customizing of web design are also discussed.

**Activity 2:** System Integration Scenarios

Objective: To understand the practical applications of System Integration in various scenarios.

1. Present a brief explanation of what System Integration is and its importance in technology

2. Provide a list of different scenarios or use cases where System Integration plays a crucial role. For example:

Scenario 1: Healthcare System Integration - Discuss how electronic health records, lab systems, and billing systems need to integrate for efficient patient care.

Scenario 2: E-commerce Integration - Explore how online stores integrate payment gateways, inventory management, and customer databases.

For each scenario,

• Identify the specific systems or components that need to be integrated.

• Discuss the benefits of integration in that scenario.

•Consider challenges or potential issues that might arise during integration

**Scenario 1: Healthcare System Integration**

In the context of healthcare, integrating electronic health records (EHR), lab systems, and billing systems is crucial for efficient patient care. These specific systems need to be seamlessly integrated to ensure patient data is accurate, readily available, and can be efficiently managed.

**Specific Systems to Be Integrated:**

- Electronic Health Records (EHR): Stores patient medical histories, diagnoses, and treatment plans.

- Lab Systems: Capture and manage lab test results and diagnostics.

- Billing Systems: Handle financial aspects of patient care, including insurance claims and billing.

**Benefits of Integration:**

- Improved Patient Care: Integration allows healthcare providers to access up-to-date patient data, enhancing diagnosis and treatment decisions.

- Efficiency: Streamlined processes reduce manual data entry, minimizing errors, and saving time.

- Cost Reduction: Integration reduces administrative costs by automating billing processes and optimizing resource allocation.

**Challenges/Issues:**

- Data Compatibility: Ensuring data formats and standards align across systems can be complex.

- Security and Privacy: Protecting patient data during integration is critical to meet healthcare regulations.

- System Compatibility: Legacy systems may not easily integrate with modern EHR solutions, requiring custom solutions.

**Scenario 2: E-commerce Integration**

In the e-commerce domain, integration of payment gateways, inventory management, and customer databases is essential to provide a seamless shopping experience for customers and efficient operations for businesses.

**Specific Systems to Be Integrated:**

- Payment Gateways: Handle online transactions securely.

- Inventory Management: Track and manage product availability, shipping, and restocking.

- Customer Databases: Store customer information, including profiles, purchase history, and preferences.

**Benefits of Integration:**

- Enhanced User Experience: Integration allows for smooth, real-time payment processing, reducing cart abandonment.

- Inventory Accuracy: Real-time inventory updates prevent overselling and stock outs.

- Personalization: Access to customer data enables targeted marketing and personalized shopping recommendations.

**Challenges/Issues:**

- Payment Security: Integration requires strict security measures to protect customer payment data.

- Technical Compatibility: Ensuring that different systems and platforms communicate seamlessly can be complex.

- Scalability: As businesses grow, integrated systems must scale efficiently to accommodate increased transaction volumes and data.

In both scenarios, the benefits of integration, such as improved efficiency, data accuracy, and enhanced user experiences, are evident. However, addressing challenges related to data compatibility, security, and scalability is vital to ensure successful integration and the long-term sustainability of these systems.